

ABSTRACT

5 A printer with synchronized engine/controllers is disclosed. The printer has a multi-segment
printhead. Each engine/controller (10) configured to be coupled with others to drive the printhead (33).
Each engine/controller (10) has an interface (27) at which to receive compressed page data. Image
decoders (28, 88) decode compressed image planes image decoders to perform an expansion, in pipeline
fashion, for the received compressed page data. A half-toner/compositor (29) composites respective strips
10 of the decoded image planes and sends output to a printhead interface (32). A printhead interface (32)
interfaces with the printhead. A synchronization signal generator (89, 90) may output a synchronization
signal that is used to synchronize print engine/controllers. One printhead interface (32) preferably acts as
master generating the synchronization signal to synchronize all the print engine/controllers to drive the
printhead at any one or more of higher speed, higher input resolution, higher outlet resolution or wider
15 format. The printhead interface comprises two LineSyncGen units, a first LineSyncGen unit providing a
synchronization signal for multiple print engine/controller chips and a second LineSyncGen unit adapted to
pulse a paper drive stepping motor.

(Figure 3)

20